
1. OUTLINE OF JICST's ACTIVITIES IN FY 1995

INTRODUCTION

The importance of JICST activities has gained greater recognition of the Japanese government, and a budget for new development was approved for FY 1995.

Accordingly, in the second half of FY 1995, JICST launched a new project: the development of advanced databases for chemical substance and for genomic analysis. JICST considered this a successful first step for future development.

In FY 1995, the government passed the supplementary budget aimed at assisting domestic industries which are in a depression, and JICST received 8 billion yen in total as a government investment for the launch of new activities. Thanks to this budget, JICST was able to initiate the development of advanced databases, and introduce a supercomputer much earlier than originally scheduled. JICST was also able to participate in the "Information G7 Joint Application Project". The goal of this project is to experiment with sharing research information using the broadband research network between the U.S., Europe and Japan.

In February, 1995, the government decided to merge and reorganize JICST and the Research Development Corporation of Japan (JRDC). This came as part of a government plan to restructure the government organizations. The Planning Office for Merger was established in JICST to carry out this task.

1. 1 Preparation of Databases

(1) Bibliographic Databases

JICST has collected 12,000 titles of journals domestic and foreign journals respectively, 800 conference proceedings, 35,000 technical reports, and 5,000 public reports and produced approximately 710,000 citations from the above sources and added to the JICST File on Science and Technology (JICST File) and the JICST File on Medical Science in Japan(JMEDICINE). In addition, as to articles which were out of scope in type and not abstracted or indexed, 1,060,000 bibliographic items were added to JICST Quick File (JQUICK), with the other bibliographic information.

(2) English Databases

JICST prepared the JICST File on Science, Technology, and Medicine in Japan (JICST-E File), which covers 270,000 citations annually, extracted from the JICST File. The JICST-E Quick File, with 300,000 entries were also prepared for JICST-EPlus File.

(3) Pre-prints Information Database

600 pre-prints were collected and 113,000 records were added to the JQUICK.

(4) Clearing Information

Based on questionnaires on the "Government Experiment and Research Activity Plan," as well as those from 765 national and public experiment stations and research institutes, JICST collected 17,000 entries on research projects for the JCLEARING File. The English version, JGRIP, was also prepared.

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(5) Factual Databases

i. Chemical Dictionary Database

73,000 entries, including 61,000 items extracted from bibliographical chemical indexes, were added to the Japanese Chemical Dictionary Database.

ii. Factual Databases

Data on 500 items dealing with thermophysical and thermochemical properties were categorized and added to the database.

1.2 Service for Science and Technology Information

(1) Overall Service

Various information services were promoted, particularly on-line services.

These on-line services included JOIS, JOIS-F and STN. JICST also published Current Bibliography on Science and Technology (CBST), and other publications. CBST was issued both in a printed form and CD-ROM version.

Other services included photocopying, translation, and search services. Total sales from these services amounted to 8.62 billion yen, of which 4.82 billion yen came from on-line service (JOIS: 3.09 billion yen, STN: 1.73 billion yen); 2.89 billion yen came from other services, and 860 million yen from publishing.

(2) Gateway Service

JICST continued to promote gateway service connecting JOIS with information services in the private sector.

(3) Enhancement of JOIS

Preparations were made to make the service available on the Internet. The service is also made available at a transmission speed of 9600bps speed. In addition, a Chemical Substance Name File service will be available on JOIS. Testing on the new service began prior to full-scale implantation scheduled in FY 1996. Retrieval using Kanji was also made available beginning in January 1996. A function of deleting duplicates in the Files of JQUICK, JICST and JMED were equipped.

(4) Development of New Products

JICST developed prototype of CD-ROM versions of JICST File and JICST-E. Among them, CD-ROM of JICST File was put on sale.

(5) Development of the Next System

Development of the JOIS-IV system has been continued. The system is scheduled for completion in FY 1997 and to begin service in FY 1998.

1.3 International Distribution of Science and Technology Information

(1) STN Service

To promote the international distribution of science and technology information, JICST continued service of STN International, with JICST-E, JGRIP, MEDLINE, EMBASE, etc. Also services for ENERGY and INIS were continued using the joint supplier system with FIZ-Karlsruhe.

(2) International Cooperation

International cooperation based on bilateral Agreements and Memoranda of Understanding for Science and Technology between two organizations were continued with the U.S., France, Germany, Korea, and China. At the same time, we received STA fellowship researchers from Bulgaria and the US.

According to the request from the Japan International Cooperation Agency (JICA), JICST

dispatched researchers to the Indonesia Science and Technology Information Center (LIPI/PDII), as well as to the India National Scientific Documentation Centre (INSDOC) and the Institute of Chemistry, Academia Sinica through the JRDC.

1.4 Technological Development

(1) Operation and development of machine translation system

JICST enhanced dictionary and system, while utilizing the system in preparing the JICST-E and JGRIP. In order to process the massive amount of documents, a batch processing function was added to the workstation version. Systems to support MS-Windows were also developed.

(2) Development of new information distribution technology

A prototype of the Japanese full text database system was evaluated, and its application to JICST activities was studied.

1.5 Promotion of Regional Information Activities

To promote regional information activities, JICST held meetings of study groups, seminars and meetings at branch offices.

1.6 Entrusted Research

We were entrusted and achieved the following researches:

/By Research and Development by the Special Coordination Funds for Promoting Science and Technology

1. Collection of human genome mapping data to construct computer database
2. A study of segmentation, character recognition and graphic recognition of a printed document
3. Basic research on systems supporting researchers' creative activities based on the individual information publicly accessible
4. Research on search functions for inter-ministry research information networks
5. Research on the specification and construction of food composition database
6. Research on database of the effects of chemical substances on the living body
7. Database development for the research results executed by Special Coordination Funds for Promoting Science and Technology

/Special Account for the Promotion of Electric Power Development

1. Nuclear energy information centers development projects

/The Institute of Physical & Chemical Research - RIKEN

1. The research project based for human genome project

/The Research Development Corporation of Japan

1. Database development for research results executed by Exploratory Research for Advanced Technology

/Science and Technology Agency

1. Construction of Directory Databases
2. International distribution of Scientific and Technological Information

1.7 Development of Databases for Research Support

From the second half of FY 1995, JICST initiated to develop new type of databases in the two fields, chemical substances and bioinformatics. They are equipped with functions such as virtual data creation, interactive data manipulation, and user-friendly interfacing, and are designed to support creative research activities.

(1) Advanced Databases for Chemical Substances

1) Grand design was made on databases for alloys and for high polymers under the guidance of two development committees.

2) Systems were developed to mount factual databases of mass spectra, thermophysical and thermochemical properties and crystal structures on the Internet.

3) Regarding the joint development of Data-Free-Way Distribution Database System for Advanced Nuclear Materials, JICST began developing a stainless steel irradiation database sourced from literature and handbooks.

4) JICST installed a high performance workstation system and Beilstein File for compiling monomer database by the supplementary budget.

(2) Advanced Database for Genomic Analysis

1) Basic and detailed designs were carried out on systems for management, evaluation, and publication of DNA sequencing data, which is the foundation of an advanced database for genomic analysis.

2) Installed a high performance workstation system approved by the supplementary budget.

(3) Carrying out of a Hyman Genome Sequencing Project

JICST instituted the Sequencing Project Promotion Committee. It extended an invitation to tender and selected four organizations to develop the sequencing procedure.

We also formed a special committee to study the release of sequencing data.

(4) Improvement and Operation of GDB

1) JICST improved and operated a computer facility and network facility, as the official node of GDB (genome database) in Japan.

2) A GDB local committee meeting was held in Japan to operate the node. Committee members also participated in the GDB node meeting held in the U.K.

3) We also made minor upgrades to the GDB system and developed the PC system to make wide use of the system throughout Japan.

(5) Installation of Supercomputer System

The installation of the composite supercomputer system was approved by the supplementary budget. In accordance with the government procurement procedures, we prepared specifications, and solicited opinions. Procedures after the bid announcement are scheduled to be implemented early next year.

1.8 Connecting to Research Information Networks

The Internet in JICST was connected to STA Network, and operated.

1.9 Information G7 Application Joint Project

As a part of Global Interoperability for Broadband Networks, a global joint project for the construction

of global information networks, JICST undertook the followings with the cooperation of the National Research Institute for Metals and the Institute of Physical & Chemical Research. This project was approved by the supplementary budget. However, due to the procedure of the government procurement, the experiment was postponed to the next fiscal year.

1. Application software

JICST initiated the development of application software which supports materials design and research on biology, utilizing multimedia technology such as video-on-demand, desktop conference.

2. Multimedia database

JICST initiated the development of multimedia databases designed to support materials design and research on biology, with the relevant institutes.

As one of the multimedia databases, JICST initiated to develop a database of black woodpeckers containing movies, images, and sounds which is designed to awaken the interest of young people in science.

3. Improving the environment for networks and multimedia

JICST concluded agreements with the cooperative organizations in Japan and the foreign countries for the construction of gigabit networks in March 1996. Installation of facilities such as workstations and ATM is scheduled in June 1996.

4. An experiment of research information

JICST prepared for the experiment of sharing research information between the National Research Institute for Metals, the Institute of Physical & Chemical Research, and Michigan State University scheduled in June to December, 1996.

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POC: The Japanese Information Center of Science and
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